

Temagami North & South Water & Wastewater Systems Quarterly Operations Report

GENERAL

- All preventative maintenance completed as per the work management system
- Municipal drinking water sampling and testing required by Ontario Regulation 170/03 was completed and all results complied with limits.
- Wastewater sampling and testing required by the systems’ Environmental Compliance Approval and the Wastewater Systems Effluent Regulation was completed.
- Municipal Wastewater Systems reporting and Wastewater Systems Effluent Regulation reporting was completed as required.

2020 CAPITAL RECOMMENDATIONS & PROGRESS

Temagami North WTP	
Scope of Work	Status
Clearwell Inspection & Cleaning(if required)	Approved (2020-21)
Submersible Pump for CW level analyzer	Approved
Generator Servicing	Completed
Chlorination system at the tower	Approved (2020-21)
New turbidity meters for filters 1 & 2	Approved (2020-21)
Chemical pump parts	Completed
Pocket Colorimeter	Completed
Maintenance of “Tempered Water Controls”	Completed
New treated pH meter	Completed
Portable pH meter	Completed
Tower work (as per Landmark Recommendations)	Approved (2020-21)
Unplanned Capital	
Chemical Feed Pump	Completed

Temagami South WTP	
Scope of Work	Status
Refurbish/replace old plant (filter 1 train)	Deferred
Milltronics control for the waste pit	Approved (2020-21)
Generator Servicing	Completed
2 Chemical tanks (1500 L) for Alum & Soda Ash	Approved
Chemical pump parts	Approved
Portable pH meter	Approved
Pocket Colorimeter	Completed
Service the second backwash pump	Approved (2020-21)
Clearwell Inspection & cleaning (if required)	Approved (2020-21)
Investigate and repair water tower riser leak	Approved (2020-21)
Tower repairs (as per Landmark Recommendations)	Approved (2020-21)
Unplanned Capital	
Replace pH controller & probe	Completed
Replace raw flow meter	Completed

Temagami North Lagoon	
Scope of Work	Status
Generator Servicing (Spruce Drive SPS)	Completed
Desludging of Cells	Municipality
Aeration Line Repair	Approved
Lagoon electrical building repair	Municipality
Spruce Drive pumping station clean out	Approved
Unplanned Capital	
Repair SPS #1 pump	Completed
Replace UPS	Completed
Portable dissolved oxygen meter	Completed
Lifting chains for Spruce Dr. SPS	Approved
Hour meters for Spruce Dr. SPS	Completed

Temagami South Lagoon	
Scope of Work	Status
ECA amendment to allow for GEO TUBE technology	Deferred
Heater in Ferric Room	Municipality
Repair/replace chemical tank valves and piping	Approved
Ferric tank clean out	Approved
Install radio communications at Temagami Shores	Approved (2020-21)
Unplanned Capital	
UPS battery for Temagami Shores SPS	Completed

QUALITY & ENVIRONMENTAL MANAGEMENT SYSTEM (QEMS) PROGRESS

An Internal Audit of the Temagami Drinking Water Systems’ Quality & Environmental Management System will be completed in the fourth quarter of 2020 to ensure that the Temagami QEMS conforms to the Drinking Water Quality Management Standard. The results of the audit will be summarized in the next report and in the Management Review Meeting minutes.

INSPECTIONS & FINDINGS

The Temagami North DWS was inspected by the Ministry of the Environment, Conservation and Parks on September 28, 2020. The inspection was unannounced and focused; the report is expected to be issued in the fourth quarter of 2020.

HEALTH & SAFETY

- The monthly Health and Safety inspections were completed.
- Health & Safety training topics reviewed include: Fire Extinguishers, Review of Site Specific Safety Data Sheets and Lock-Out/Tag Out

INCIDENTS & COMPLAINTS

Temagami North DWS: Loss of Coagulant (discovered August 20th)

Details: Loss of coagulant due to one of the alum pumps no longer being functional. It is not known when the pump died because it did not alarm or stop the plant because it did not fail but died. The pumps were fine on August 18th at 16:00 hrs when the operator left the plant but upon returning on August 20th around 09:00 hrs the pump was no longer working. Turbidity levels were slightly elevated from August 19th at 00:30hrs until the issue was discovered on August 20th which suggests that the pump may have died then.

Resolution: Operator put MP-9 pump in manual off so that the plant would run solely on pump MP-10 as its coagulation feed pump. Operator verified that if MP-10 fails the plant will shut down and call out. Three distribution samples were taken and the distribution system was flushed at the end of the system and at dead ends. A backwash was also completed on both filters. Filter turbidity trends and CT triggers were reviewed and all were okay. OCWA will look into getting; a spare pump to keep on site, third party flow switches and a new chemical pump.

Lab Results: No total coliforms or E.coli detected on any of the three distribution samples.

Note: there are two pumps that cycle back and forth, feeding the coagulant into both trains (filters) so coagulant was still being added every other cycle and therefore there was not a complete loss of coagulant.

CALL-BACK SUMMARY

System	Call-Backs this Quarter	Total Call-Backs to Date
Temagami North WTP	5	16
Temagami North Lagoon	0	0
Temagami South WTP	1	20
Temagami South Lagoon	0	2
Total to Date	6	38

Please see Appendix A for Call-Back details

DRINKING WATER SYSTEM PERFORMANCE & COMPLIANCE SUMMARY

Temagami North Drinking Water System	July	August	September	Compliance
Maximum Daily Raw Flow Volume (m ³ /d)	327	220	206	Max 460
Maximum Peak Raw Flow Rate (L/min)	420	415	412	Max 456
Maximum Treated Flow (m ³ /d)	329*	222	203	Max 328
Total Treated Flow (m ³ /d)	6,749	5,451	4,903	NA
Free Chlorine Residual from analyzer (mg/L)	1.09 to 2.75	1.09 to 1.81	1.17 to 1.75	Min 0.85
Distribution Chlorine Residual (mg/L)	0.15 to 1.45	0.23 to 1.68	0.29 to 1.50	Min 0.05
% of time turbidity ≤ 0.3 NTU	Filter 1	100	100	Min 95%
	Filter 2	100	100	

*Maximum total flow exceeded on July 4th due to high usage (hot weather)

Temagami South Drinking Water System	July	August	September	Compliance
Maximum Daily Raw Flow Volume (m ³ /d)	245	231	221	Max 1,005
Maximum Peak Raw Flow Rate (L/min)	695 ¹	691 ²	691 ³	Max 700
Maximum Treated Flow (m ³ /d)	221	196	181	Max 950
Total Treated Flow (m ³ /d)	5,195	4,541	3,255	NA
Free Chlorine Residual from analyzer (mg/L)	1.01 to 1.63	1.25 to 1.74	0.89 ⁴ to 1.82	Min 1.00
Distribution Chlorine Residual (mg/L)	0.55 to 1.40	0.62 to 1.49	0.55 to 1.39	Min 0.05
% of time turbidity ≤ 0.3 NTU (filter 2)	100	100	100	Min 95%

1 - Spikes on plant start up lasting less than 2 minutes: July 5 (751.2), July 6 (720), July 13 (728.4), July 23 (747), July 27 (749.4) and July 30 (729). Actual max for month = 695 m³

2 - August 18: Spike on plant start up lasting less than 2 minutes. Actual max for month = 691 m³

3 - September 21: Spike on plant start up lasting less than 2 minute. Actual max for month = 691 m³

4 - September 26 - Low Chlorine due to plugged chemical injection line; Contact Time was met and primary disinfection requirements were achieved

WASTEWATER TREATMENT SYSTEM PERFORMANCE & COMPLIANCE SUMMARY

Temagami North Lagoon	July	August	September	Compliance (ECA)
AS PER THE PREVIOUS ENVIRONMENTAL COMPLIANCE APPROVAL				
Average Daily Flow - Influent (m ³ /day)	288	273	395	Max 390 (annual average)
Max Daily Flow (m ³ /day)	361	355	587	Max 1,200/day
Total Volume – Treated (m ³)	8,929	8,473	11,850	NA
cBOD ₅ (mg/L)	<0.675	1.05	1.02	20 mg/L (monthly average)
Total Suspended Solids (mg/L)	<2.13	<1.25	<5.2	30 mg/L (monthly average)
Total Phosphorous (mg/L)	0.032	0.024	0.024	0.6 mg/L (monthly average)
Total Ammonia Nitrogen (mg/L)	0.357	<0.118	0.268	6 mg/L (monthly average)
pH	7.4 - 9.0	6.3 - 7.8	6.3 - 8.5	6.0 to 9.5 (inclusive)
Temperature (°C)	10 - 26.4	18.1 - 24.1	13 - 20.3	-
<i>Escherichia coli</i> (<i>E. coli</i>) (cfu/100mL)	11.5	14.7	11	Geometric Mean of 200 (objective)
AS PER WASTEWATER SYSTEM EFFLUENT REGULATIONS (WSER)				
cBOD ₅	0.61	1.05	1.02	25 mg/L (quarterly average)
Total Suspended Solids	1.88	0.88	4.9	25 mg/L (quarterly average)

Temagami South Lagoon	July	August	September	Compliance (ECA)
As per the Environmental Certificate of Approval				
Average Daily Influent Flow (m ³ /day)	168	135	117	Annual Average of 232
Max Daily Flow (m ³ /day)	1,321	164	141	NA
Total Volume Treated (m ³)	5,191	4,175	3,510	NA

APPENDIX A

CALL BACK REPORTS

Work Order Call Back Details Report

1836505: Temagami north #1 plant shut down 6030

Asset:

Location: 6030-WTTM-P 6030, Temagami North WTP, Process

Page Time:	07/25/2020 08:05 PM
Arrive time:	07/25/2020 09:00 PM
Leave time:	07/25/2020 09:20 PM
Finish Time:	
Report Date:	7/28/20
Reported By:	Claude Mongrain
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	INPRG
Classification:	REFURBISH/REPLACE
GL Account:	TEMAGY6030-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	MECHANIC	Claude Mongrain	00:00	04:00

Log		
Date	Created By	Description
7/28/20	Claude Mongrain	Plant shut down
Due to no flow after backwashes #1 plant failed no flow reset plant and test all good		

Work Order Call Back Details Report

1873152: High turbidity #1 filter Temagami north WTP 6030

Asset:

Location: 6030-WTTM-P-FI 6030, Temagami North WTP, Process, Filtration

Page Time:	08/12/2020 06:00 PM
Arrive time:	08/12/2020 06:45 PM
Leave time:	08/12/2020 07:00 PM
Finish Time:	08/12/2020 08:22 PM
Report Date:	8/12/20
Reported By:	Claude Mongrain
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	CLOSE
Classification:	REFURBISH/REPLACE
GL Account:	TEMAGY6030-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	MECHANIC	Claude Mongrain	00:00	04:00

Log		
Date	Created By	Description
8/12/20	Claude Mongrain	High turbidity #1 filter
On start up turbidity spike and filter shut down put turb meter on hand turb came down right away reset plant and monitor for few minutes		

Work Order Call Back Details Report

1874306: Temagami N WTP high pH - 6030

Asset: 0000293654 ANALYZER PH TREATED
Location: 6030-WTTM-P-CD 6030, Temagami North WTP, Process, Conditioning

Page Time:	08/20/2020 06:45 PM
Arrive time:	08/20/2020 07:15 PM
Leave time:	08/20/2020 08:30 PM
Finish Time:	08/20/2020 08:30 PM
Report Date:	8/21/20
Reported By:	Josh Dubois
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	COMP
Classification	REFURBISH/REPLACE
GL Account:	TEMAGY6030-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	OPERATOR	Josh Dubois	00:00	04:00

Log		
Date	Created By	Description
8/21/20	Josh Dubois	High treated pH
<p>Call for high treated pH at temagami N wtp. Drove to site and performed a backwash to rid of some high pH water. Started low lifts and plants back up and turned both process soda ash and treated soda ash dosages down. Performed a worst case CT calculation to allow the plant to run overnight and verified that call out will occur if any of those numbers get exceeded. All okay now.</p>		

Work Order Call Back Details Report

1916224: Call For Loss comm Tem N Tower due to power fail 6030

Asset:

Location: 6030-WTTW 6030, Temagami North WTP Tower

Page Time:	09/07/2020 09:45 PM
Arrive time:	09/07/2020 10:00 PM
Leave time:	09/07/2020 11:45 PM
Finish Time:	09/07/2020 11:45 PM
Report Date:	9/8/20
Reported By:	Bryce Logan
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	COMP
Classification	REFURBISH/REPLACE
GL Account:	TEMAGY6030-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	SUPER	Bryce Logan	00:00	08:00

Log			
Date	Created By	Description	
9/8/20	Bryce Logan	Power fail Loss of comm to tower	
Call for loss of communication tot he Temagami north tower form the WTP. this was caused by loss of power in the town site. generator was running at the SPS.			

Work Order Call Back Details Report

1916972: Call For high turb 6030

Asset: 0000293644 ANALYZER CHLORINE PORTABLE
Location: 6030-WTTM 6030, Temagami North WTP

Page Time:	09/13/2020 02:15 AM
Arrive time:	09/13/2020 02:30 AM
Leave time:	09/13/2020 04:00 AM
Finish Time:	09/13/2020 04:00 AM
Report Date:	9/14/20
Reported By:	Bryce Logan
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	COMP
Classification	REFURBISH/REPLACE
GL Account:	TEMAGY6030-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	SUPER	Bryce Logan	00:00	04:00

Log		
Date	Created By	Description
9/14/20	Bryce Logan	Call for high turb after backwash
Call for high turb after backwash on arrival the plant had went to filter to waste and lowered the turb and started making water again all ok		

Work Order Call Back Details Report

1918786: Alarm Hi Lo Chlorine Temagami S WTP 6028

Asset:

Location: 6028-WTTM-P-DI 6028, Temagami South WTP, Process, Disinfection

Page Time:	09/26/2020 04:30 PM
Arrive time:	09/26/2020 05:45 PM
Leave time:	09/26/2020 08:15 PM
Finish Time:	09/27/2020 09:21 AM
Report Date:	9/27/20
Reported By:	Chris Barkhouse
Supervisor:	

Site:	OCWASITE
Priority:	5
Work Type:	CALL
Status:	COMP
Classification:	COMPLIANCE
GL Account:	TEMAGY6028-200M

Actual Labor				
Task ID	Craft	Labor	Regular Hours	Premium Hours
	INSTTECH	Chris Barkhouse	00:00	04:00

Log		
Date	Created By	Description
9/27/20	Chris Barkhouse	Respond to Hi/Lo Chlorine alarm. Plant was shut down when arrived and CL2 at 0.94 mg/l. Found hypo injector plugged and hypo was going back into tank from overpressure valve. Cleaned injector and adjusted pressure down to 20 psi from 40. Backwashed plant to get rid of some of the water. Performed a CT calculation and plant passed easily. Raised chlorine dosage to 8.0 from 6.65 on K factor and started plant. Monitored operation for a bit until chlorine had risen to 1.12. Put K factor back down to 6.7, reset alarms and left.